

University of Manchester

# Maternal and Fetal Health Research Centre

## Funding Successes

### Special points of interest:

- Lynda Harris in California
- Paula Diaz success at SGI
- Karen Forbes Early Career Grant
- Christal Fisher's top prize
- Success for MRes students past and present

### *Tommy's funding for new projects focusing on stillbirth*

Tommy's will be increasing their funding to the Centre in 2011/12 to £140,000. Some of this money will contribute to the funding of our current PhD students until the end of their study period. The rest will go towards beginning a major new initiative for Tommy's in funding stillbirth research in Manchester: in fact Tommy's wish us to be their 'Stillbirth Research Centre' for the UK. This has come about through the great recent work by Alex Heazell, in the lab., in the clinic and in talking to large numbers of patients, the public and government representatives, as well as to Tommy's themselves. The new money will fund a clinical research fellow to work with Alex on using placental biomarkers to refine the use of reduced fetal movements in the early diagnosis of risk of stillbirth.

### *Two new BBSRC grants to the Centre.*

Although the exact amounts of funding have not yet been communicated we recently heard news of the award of two new BBSRC grants:

A project entitled 'Amino acid transport through the placenta: an experimental and modelling investigation'. This is a collaboration of Jo Glazier, Ian Crocker, Ed Johnstone and Colin Sibley with colleagues at the University of Southampton including Rohan Lewis. The aim is to develop a predictive computer model of amino acid transport across the placenta. Although as noted above the amount awarded is not yet known for sure, we think this will include a postdoc position for work in Manchester.

A project entitled 'Physiological roles of System A amino acid transporters in fetal growth and development'. This is a collaboration of Jo Glazier and Colin Sibley with Miguel Constanca at the University of Cambridge. The aim is to use mice in which each and all of the system A amino acid transporter isoforms have been knocked out to learn about the role of this transporter in fetal growth and later development. The work will take place in Cambridge in the first instance.

### Inside this issue:

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Maternal and Fetal Health Research Centre

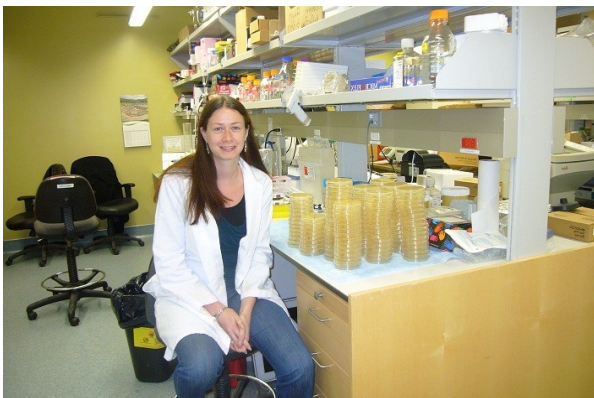
School of Biomedicine

Faculty of Medical and Human Sciences



## News from abroad - Lynda Harris at the Vascular Mapping Centre in The Burnham Institute, Santa Barbara, California

Lynda is spending the first year of her BBSRC David Phillips fellowship in California to "Develop the use of vascular homing peptides as a drug delivery system in pregnancy". They are working Lynda hard in the lab but she has still had the opportunity to visit LA, Ventura, Solvang, Carpinteria and San Diego.



The view from Lynda's window in the main lab



### *In the news:*

John Aplin recently featured in a myth-busting 'Celebrities and Science Review' from 'Sense about Science'. Scroll down to Alex Reid on the following link:

[http://  
www.senseaboutscience.org.uk/  
index.php/site/about/562](http://www.senseaboutscience.org.uk/index.php/site/about/562)

Carolyn Jones has been invited by Elsevier to write a page for their SciTopics site entitled **Reproductive Glycogenetics** which can be seen at:

[http://www.scitopics.com/  
Reproductive\\_Glycogenetics.html](http://www.scitopics.com/Reproductive_Glycogenetics.html)

## Paula Diaz



Paula's abstract (P. Diaz, C.P. Sibley & S.L. Greenwood) "Syncytiotrophoblast Potassium Channels: Possible Targets of Reactive Nitrogen Species." has been selected for oral presentation at the SGI 58th Annual Scientific Meeting. Paula has been awarded one of four US\$2,000 research awards by the 2011 SGI Scientific Program Committee. This award, funded by the **Giorgio Pardi Foundation**, recognizes highly meritorious abstracts in the field of fetal medicine and placental function submitted by individuals still in training. This year's awardees will be announced at the Presidential Address & Awards Ceremony at the SGI meeting in Miami in March.

## Alison Cooke, Research Midwife

Alison, who graduated in December, is presenting her qualitative research on delayed childbearing at the International Confederation of Midwives 29th Triennial Congress in Durban, South Africa in June and has been awarded funding from the RCM and The Learning Curve to attend.



Alison at her MRes graduation in December

## Carolyn Jones - New Careers Website

In March, the University Careers Service is due to launch a new website supporting those who aspire to an academic career.

In developing the website, the Careers Service has interviewed and videoed a range of established academics and those in the early stages of developing an academic career, and, to illustrate the breadth of academic careers with a range of career stories, they have included a link to Carolyn's inspirational profile, as published in UniLife.

The career stories section of the website, which includes the profiles, is here:

<http://www.academiccareer.manchester.ac.uk/about/stories/>



## Karen Forbes

Karen has been awarded an Early Career Grant from the Society for Endocrinology. The grant is for £10,000 for a project entitled 'Identifying novel microRNAs in the placental IGF axis'. Also:

On 27th January, Karen gave a case study presentation entitled 'Identifying and therapeutically targeting microRNAs that regulate the placental IGF-axis' at the Nowgen course, 'An Introduction to miRNA and siRNA'

## Chloe Duval

Congratulations to Chloe Duval who did well in her first year viva and continues into the second year of her PhD programme 'The Role of Parathyroid Hormone-Related Peptide in Placental Development and Function'

## Christal Fisher

Christal Fisher was a member of the team that won the 2010 Biotechnology Young Entrepreneurs Scheme (YES) competition.

The entrepreneurial skills of this team of early-career bioscientists with ideas for food security earned them top place in a national competition held at County Hall, London on 13 December.

<http://www.manchester.ac.uk/aboutus/news/display/?id=6506>

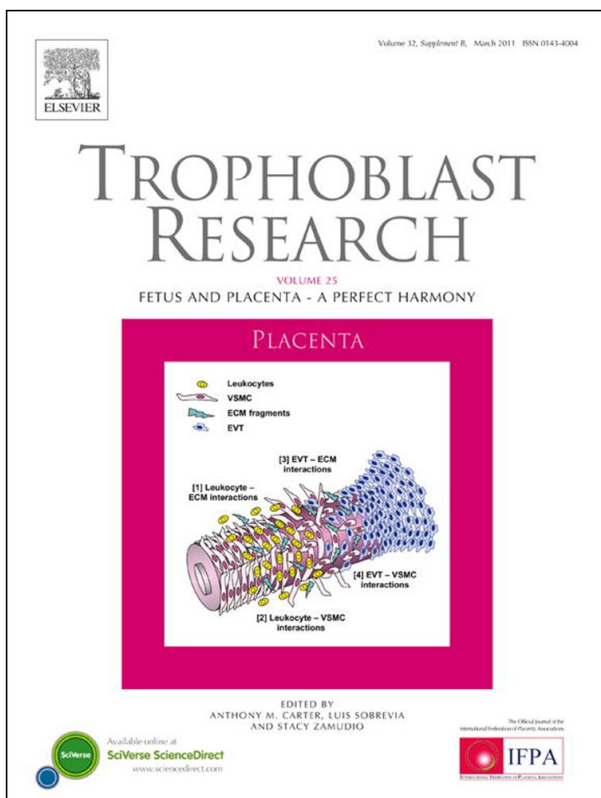
Christal (far right) receiving the award



## Lynda's Artwork

Lynda Harris's artwork features on the front cover of Trophoblast Research, Vol 32, Supplement B, March 2011.

## Student Successes - MRes past and present



Blair Bell Research Society Meeting, November 2010:  
**Laura Hopkins**, 3<sup>rd</sup> prize for poster presentation

7<sup>th</sup> Ann Teenage Sexuality Conference, November 2010:  
**Fiona Mackie**, - best oral presentation

North of England Meeting, November 2010:  
**Lynne Warrander**, - best oral presentation

North of England Meeting, November 2010:  
**Philip Dutton**, -best poster presentation

RCOG Medical student prize:  
**Fiona Mackie**, Richard Johanson research prize

## Publications:



Please include: **Maternal and Fetal Health Research Centre, Manchester Academic Health Sciences Centre, University of Manchester** when papers are submitted. You should also acknowledge that the Group is supported by the NIHR Biomedical Research Centre and (if appropriate for your study) the Greater Manchester Local Comprehensive Research Network.

**PLEASE REMIND YOURSELVES OF PUBLICATION AFFILIATIONS BEFORE SUBMITTING - FURTHER DETAILS CAN BE FOUND ON THE MFH SHARED DRIVE IN THE FILE 'RESEARCH GROUP ADMIN'**

Harris LK (2010) IFPA Gabor Than Award lecture: Transformation of the spiral arteries in human pregnancy: Key events in the remodelling timeline. *Placenta*. Dec 16 Epub ahead of print.

Jones CJP, Desoye G. A New Possible Function for Placental Pericytes. *Cells Tissues Organs* DOI: 10.1159/000322394 Published online: December 29, 2010

Umbers, A.J., Boeuf, P., Clapham, C., Stanistic D.I., Baiwog, F., Mueller, I., Siba, P., King, C.L., Beeson, J.G., Glazier, J. & Rogerson, S.J. (2010). Placental malaria-associated inflammation disturbs the IGF axis of fetal growth regulation. *J. Infectious Diseases*, (in press).

M Westwood, S Tajbakhsh, KW Siddals, AJ Whatmore, PE Clayton. Reduced Pericellular Sensitivity to IGF-I in Fibroblasts From Girls With Turner Syndrome: A Mechanism to Impair Clinical Responses to GH. *Pediatric Research* (2011). In Press

Nugent JL, Khashan AS, Baker PN. Reduced infant birth weight in the North West of England consequent upon 'maternal exposure' to 7/7 terrorist attacks on central London. *J Obstet Gynaecol*. 2011;31(2):118-21.

Wareing M, Greenwood SL. Review: Potassium channels in the human fetoplacental vasculature. *Placenta*. 2011 Jan 10. [Epub ahead of print]

Heazell AE, Brown M, Worton SA, Dunn WB. Review: The effects of oxygen on normal and pre-eclamptic placental tissue - insights from metabolomics. *Placenta*. 2010 Dec 30. [Epub ahead of print]

Desforges M, Westwood M. A limitation of the method for siRNA delivery into primary human cytotrophoblast cells. *Placenta*. 2011 Feb;32(2):192-4. Epub 2010 Dec 10.

Heazell AE, Sharp AN, Baker PN, Crocker IP. Intra-uterine growth restriction is associated with increased apoptosis and altered expression of proteins in the p53 pathway in villous trophoblast. *Apoptosis*. 2011 Feb;16(2):135-44.

Higgins L, Greenwood SL, Wareing M, Sibley CP, Mills TA. Obesity and the placenta: A consideration of nutrient exchange mechanisms in relation to aberrant fetal growth. *Placenta*. 2011 Jan;32(1):1-7. Epub 2010 Oct 27.

## Publications (continued)

- Soydemir F, Kuruvilla S, eclamptic pregnancy. Lab Invest. 2011 Feb;91Brown M, Dunn W, Day P, Crocker IP, Baker PN, Sibley CP, Brownbill P. Adapting in vitro dual perfusion of the human placenta to soluble oxygen tensions associated with normal and pre-eclamptic pregnancy. Lab Invest. 2011 Feb;91(2):181-9. Epub 2010 Oct 4.
- Thajam D, Atkinson DE, Sibley CP, Lavender T. Is neonatal abstinence syndrome related to the amount of opiate used? J Obstet Gynecol Neonatal Nurs. 2010 Sep;39(5):503-9.
- Tower CL, Lui S, Charlesworth NR, Smith SD, Aplin JD, Jones RL. Differential expression of angiotensin II type 1 and type 2 receptors at the maternal-fetal interface: potential roles in early placental development. Reproduction. 2010 Dec;140(6):931-42. Epub 2010 Sep 13.
- Warrander LK, Heazell AE. Identifying placental dysfunction in women with reduced fetal movements can be used to predict patients at increased risk of pregnancy complications. Med Hypotheses. 2011 Jan;76(1):17-20. Epub 2010 Sep 9.
- Samangaya RA, Wareing M, Skillern L, Baker PN. Phosphodiesterase Inhibitor Effect on Small Artery Function in Preeclampsia. Hypertens Pregnancy. 2010 Sep 6. [Epub ahead of print]

## Welcome to ....



### Jeffrey Kwesiga

Program: MRes Tissue Engineering for Regenerative Medicine  
Previous Degrees: MSc Molecular Biology at Florida Institute of Technology

Supervisors: John Aplin and Karen Forbes

Project Title:

**Establishing an Experimental Model of Vascular Development in the Placenta**



### Steven Doyle

Program: PhD Developmental Biomedicine 1/2011—12/2014  
Previous degrees: MSc BioHealth Informatics, University of Manchester; BSc Computing and Management Sciences; Sheffield Hallam University

Supervisors: Ed Johnstone, Roseanne McNamee, Colin Sibley

Project Title:

**Individualised Birth Ratios for UK Babies of non-Caucasian origin**

## Regular Meetings:

### Tuesday 'Works in Progress' meetings

	Speaker	Chair
22/02/2011	Carolyn Jones & Colin Sibley	-
01/03/2011	Zoe Darwin	Sarah Lee
08/03/2011	Stephy Vargase	Catherine Chmiel
15/03/2011	Lamia Zafrani	Karen Forbes
22/03/2011	Sarah Lee	Deirdre Thajam
29/03/2011	Raja Nadif	Laura Kusinski
05/04/2011	Michelle Desforges	Khiria Alsaghiri
12/04/2011	Linda Peacock & Cara Taylor	Lucy Higgins
19/04/2011	Lucy Higgins	Lizzie Bonnie
26/04/2011	<b>EASTER</b>	
	Catherine Chmiel & Fiona Prichard	Debbie Smith
03/05/2011		
10/05/2011	Mark Dilworth	Chloe Duval
17/05/2011	Alicia Requena Jimenez	Paul Brownbill
24/05/2011	Ellie Schmidt	James Newham
31/05/2011	Caroline Wright	Stephy Vargase
07/06/2011	Laura Kusinski	Andrea Ditchfield
14/06/2011	Deirdre Thajam	Zoe Darwin
21/06/2011	Peter Sippos	Melissa Brereton
28/06/2011	Steven Doyle	Issac Huen
05/07/2011	<i>MRes Dragons Den Symposium</i>	
12/07/2011	Suzanne Thomas	Cara Taylor
19/07/2011	Melissa Brereton	Paula Diaz
26/07/2011	James Newham	Kimberley Hannam
02/08/2011	Andrea Ditchfield	Christal Fisher

### Wednesday lab meetings

23 February	-	Week 6
2 March	-	Week 7
9 March	-	Week 8
16 March	-	NO MEETING - SGI
23 March	-	Week 1
30 March	-	Week 2
6 April	-	Week 3
13 April	-	Week 4
20 April	-	Week 5
27 April	-	NO MEETING EASTER WEEK
4 May	-	Week 6
11 May	-	Week 7
18 May	-	Week 8
25 May	-	Week 1
1 June	-	Week 2
8 June	-	Week 3
15 June	-	Week 4
22 June	-	Week 5
29 June	-	NO MEETING
6 July	-	Week 6
13 July	-	Week 7
20 July	-	Week 8

### MFHRC Grand Rounds—Seminar Rooms A-D, 5th Floor (Research), St Mary's Hospital

9th March, 2011	<b>Professor Phil Bennett, Department of Surgery and Cancer, Imperial College, London</b>	<b>title to be announced</b>	<b>1.00 pm - FREE LUNCH AT 12.45 PM</b>
23rd March 2011	<b>Professor Daniel Brison, Scientific Director, Department of Reproductive Medicine, Central Manchester University Hospitals NHS Foundation Trust</b>	<b>From embryo to stem cell to therapy</b>	<b>1.00 pm</b>
30th March 2011	<b>Professor Pauline Slade, Clinical Psychologist, University of Sheffield</b>	<b>Post traumatic stress symptoms after childbirth - a role for attachment patterns ?</b>	<b>1.00 pm - FREE LUNCH AT 12.45 PM</b>

Week 1: Andrea  
Week 2: Melissa B  
Week 3: Deirdre  
Week 4: Christina  
Week 5: Laura  
Week 6: Caroline W  
Week 7: Paula  
Week 8: Mark D